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RECORD OF ORAL HEARING
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex Parte JOHN C. BELL, NAHUM SONENBERG, DAVID F. STOJDL,
EARL G. BROWN, HAROLD L. ATKINS,
and RICARDO M. MARIUS

Appeal 2010-004413
Application 09/664,444
Technology Center 1600

Oral Hearing Held: May 12, 2009

Before ERIC B. GRIMES, FRANCISCO C. PRATS, and JEFFREY N. FREDMAN, *Administrative Patent Judges*.

APPEARANCES:

ON BEHALF OF THE APPELLANT:

DOUGLAS A. GOLIGHTLY, ESQUIRE
930 Clopper Road
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2 The above-entitled matter came on for hearing on Thursday, May 12,
3 2011, commencing at 9:40 p.m., at the U.S. Patent and Trademark Office,
4 600 Dulany Street, Alexandria, Virginia, before John Hutson.

5
6 PROCEEDINGS

7 THE USHER: Calendar No. 40, Appeal No. 2010-4413.
8 Mr. Golightly.

9 JUDGE GRIMES: Good morning, Mr. Golightly. You'll have 20
10 minutes to make your argument and you can get started whenever you're
11 ready. If you wouldn't mind introducing your colleague for the record, we'd
12 appreciate it.

13 MR. GOLIGHTLY: Sure. My name's Doug Golightly, and my
14 colleague is Asaf Batleman (ph). We work at the same company.

15 So I think the Rejections comes down to they are related to lack of
16 enablement and there's two main Rejections. One Rejection relates to
17 Dependent Claims 27, 31, and 73 to 77, which just recite specific VSB
18 strains. The Examiner alleges that a biological deposit for the enablement of
19 these claims. Our arguments on the record, we believe, will over come the
20 Rejections, and we'll discuss that Rejection today only as time allows.

21 So what we want to focus on is the Rejection that the claims lack
22 enablement with respect to methods involving immunocompetent animals
23 and treatments. With the exception of Claim 78 which is limited to in vitro,
24 all the dependent claims are presented -- are presently rejected under 35
25 U.S.C., 112, first paragraph, because allegedly the Specification, while being
26 enabling for methods utilizing VSP for reducing the viability of -- tumor

1 cells in vitro and are enabling for in vivo and xenographs, they do not
2 reasonably provide enablement for utilization of VSV for the reduction of
3 viability of all types of -- tumor cells in an immunocompetent animal. That's
4 the Examiner's position.

5 As I will discuss, this Rejection focuses on really three allegations:
6 One, the Claims are enabled for in vivo treatment of an immunocompetent
7 animal; the rejected claims specifically relate to treatment; and, third, the
8 application fails to enable the genus -- tumor cells.

9 JUDGE FREDMAN: The Examiner actually doesn't have any
10 specific reference. In fact, this is a suggestion -- number of references that
11 are commonly used in enablement rejections, like Jane Freshley (ph) and
12 Germ Rangora (ph), and basically alleges that there's unpredictability, which
13 certainly there is, but has no specific unpredictability with regard to your
14 oncolytic virus.

15 MR. GOLIGHTLY: Yes, that's one of my paragraphs I was going to
16 go over, yeah. Yeah, I mean, I agree. I don't think it's specific and I'll talk
17 about that later. I don't think it's really relevant to the claims as they're
18 drafted and they're not particularly relevant to our VSV claims.

19 Not to jump too far ahead of what I planned to say, but we did cite
20 some references. We cited to McCormick and Cora (ph) which are some
21 oncolytic virus references out there, and we cited them just to show that
22 those authors/inventors used in vitro studies, xenographs, and those did
23 predict the clinical results they saw. The Examiner dismissed that and said
24 those don't relate to VSV so, therefore, I'm not giving them any weight, is
25 essentially what he said. But based on that argument, the references you
26

1 cited also don't have the relevance. So I think ours were more relevant, and
2 he dismissed those.

3 So I guess what I first talked about is the claims do not specifically
4 relate to therapy and to treatment, and I cited -- they refer to reducing
5 viability of a tumor cell. The Examiner has alleged that this is pre se
6 treatment and then concludes that the claimed invention is not enabled for
7 treating an immunocompetent animal. However, the rejected claims do not
8 specifically recite treatment, so we believe the Examiner is applying the
9 wrong standard.

10 JUDGE FREDMAN: I do have one question about that, though. In
11 the context of an immunocompetent animal, wouldn't the virus function -- I
12 mean, I don't know that this is necessarily relevant to the enablement, as you
13 say, because the claim doesn't necessarily encompass this, but wouldn't the
14 VSV virus presumably stimulate an immune response which would then
15 reduce the ability of the virus to target the tumor cells in an
16 immunocompetent animal?

17 MR. GOLIGHTLY: So the Examiner hasn't made that argument.
18 Also, we haven't addressed that here. I don't want to get into too much detail
19 because I haven't really prepared for it. I'd have to confer with the inventors,
20 but there are obviously differences between immunocompetent and
21 immunodeficient. However, we believe that there were techniques and
22 methods available and under those skilled in the art at the time of the
23 invention that would have allowed them to reduce the viability of those
24 tumor cells. Even in spite of that -- I mean, you can think of simply directly
25 injecting the tumor. There are ways to knock down that immune response.

26

1 JUDGE FREDMAN: Well, I think there are multiple strains of VSV,
2 so you could also use different strains sequentially.

3 MR. GOLIGHTLY: Yes. And VSV is -- I don't want to venture too
4 far -- but I don't think it's --

5 JUDGE FREDMAN: It's not particularly --

6 MR. GOLIGHTLY: Well, and it's not a particular human pathogen,
7 so some people don't -- it's not like not some of the adenoval (ph) vectors
8 and stuff.

9 And just so we're clear, our position is that even if the claims did
10 explicitly recite treating immunocompetent animal, the Specification does
11 enable that embodiment, also, and I'll discuss that a little bit later.

12 In our Reply Brief, we cited three different nonprecedential decisions
13 from the Board to support our position. The first was *Ex Parte Booten* (ph).
14 It has some significant similarities to the present situation. In that case, the
15 Examiner's position was that the claims related to methods of transferring a
16 neoclaic (ph) acid to cells that were enabled for in vitro transfer but not for
17 in vivo transfer because the only purpose in the application, alleged by the
18 Examiner, was in vivo transfer for therapy, and the claims would not have
19 been enabled for these therapeutic purposes. Applicants in that case argued
20 that the claims do not require therapeutic effect and that the application did
21 demonstrate in vivo neoclaic acid transfer.

22 The Board essentially said in the decision that even if one were to
23 accept the gene therapy -- or accept that gene therapy would've required
24 undue experimentation and that gene therapy is the only in vivo use, the
25 Board still not agree that the claims were not enabled. There was no reason
26 to doubt that the in vivo neoclaic acid transfer would require undue

1 experimentation, even if therapeutic results might require undue
2 experimentation.

3 The Board stated, and I quote, "When the claims are not directed to a
4 method that achieves a therapeutically useful result, achieving such a result
5 is not required for the claims to be enabled." They go on to say "Thus, while
6 the claims read on gene therapy methods, they do not require producing a
7 clinically effective therapeutic response."

8 Like *Booten*, the pending claims do not require any therapeutic effect,
9 and the Examiner incorrectly considers the methods performed in vitro to be
10 enabled but not for a therapeutic effect in vitro.

11 One of the other cases was *Ex Parte Sato Zao* (ph). The claims at
12 issue were to methods to introduce neoclaic acid to molecules in -- subject.
13 The Examiner rejected them as not being enabled essentially due to the
14 alleged art recognized to unpredictability of achieving therapeutic levels
15 following administration in vivo. The Board decided that the claims were
16 enabled essentially because the Examiner's reasoning was not entirely
17 consistent with the case law which says that enabling the full claim scope
18 does not necessarily require enabling every embodiment and that the claims
19 were not nonenabled. The Board even stated that, and I quote, "The
20 Examiner may be correct that achieving clinically useful gene therapy using
21 the claimed method would require undue experimentation, but the claims are
22 not enabled merely for encompassing that difficult to achieve outcome."
23 For clarity, the Examiner in the present case has not even shown that
24 achieving a therapeutic effect using the claimed invention would require
25 undue experimentation.

26

1 And then the last case I cited was *Ex Parte Iesi* (ph), and it's another
2 similar decision. It recited a method that may encompass methods capable
3 of achieving a clinically effective therapeutic response. Again the Examiner
4 focused on the therapeutic effect and again the Board decided that while
5 there may be potential problems and may complicate treatment, these
6 problems need not be overcome for the enablement of the claims.

7 In the present application, the Examiner responded to applicants'
8 discussion of these decisions by stating that "Contrary to applicants'
9 assertion, the reduction in the viability of a tumor cell in the context of a
10 living being constitutes a therapeutic response," and that was really the only
11 argument we saw from the Examiner trying to rebut what these cases say.
12 Therefore, in the present case, the Examiner's enablement analysis
13 improperly focuses on whether the subject matter of the pending claims is
14 enabled for methods that result in a therapeutic effect. Additionally, even if
15 the claims required a therapeutic effect, they would meet the enablement
16 requirement.

17 So the question is what is the correct level at which the present claims
18 must be enabled? The real requirement that the claims must be enabled for
19 reducing the viability of a tumor cell. The Examiner has not provided any
20 valid reason that one skilled in the art at the time of the invention would
21 have doubted the claimed invention would result in a reduction in viability,
22 either in vitro, in vivo, even in an immunocompetent animal. It's not really
23 on the record. The Specification shows that VSV clearly reduces the
24 viability of tumor cells in vivo in the xenograph model, and there's been no
25 evidence provided that suggests otherwise.

26

1 If a virus that has been extensively shown in our Specification to kill
2 cells in vitro and in the mouse model, then its administration or delivery to a
3 tumor cell in an immunocompetent animal would also be expected to result
4 in reduction of viability, without requiring undue experimentation and using
5 only skills that were known in the art at the time of the invention. The
6 Examiner has really presented nothing to refute this.

7 So then the Examiner in making these rejections has gone on to cite
8 many documents, which you brought up, and really they merely just point
9 out that not all agents that have had activity in xenographs make it through
10 clinical trials to become drugs. Many of these agents are dropped as drug
11 candidates, not because they didn't have activity, the predicted activity, but
12 because of side effects; they may have exhibited activity but not enough for
13 the standard of care that was out there. However, the present claims only
14 require activity, not approval by the FDA and not commercial development.

15 The cited claims, as a whole, do not stand for the proposition that
16 activity seen in a xenograph will not be seen in an immunocompetent animal
17 or in a patient.

18 JUDGE FREDMAN: I think we understand that. Can we jump to the
19 other Rejection, which I think I had a couple questions on?

20 MR. GOLIGHTLY: Okay.

21 JUDGE FREDMAN: Essentially, we're talking about the deposit of
22 these five strains, and I guess you're saying that they're found in several
23 references and rely on the journal policy. You know, journal policies may
24 say something, but that doesn't mean that's what people actually do.
25 Certainly, they're not as available as if they were deposited at ATCC under
26 the -- but the first question I have is, so you have a lot of sequence in this

1 case. Do you have the complete sequence of these viruses or just almost the
2 complete sequence?

3 MR. GOLIGHTLY: Looking at the Specification, we have the
4 sequence of the cDNAs for the proteins of the virus.

5 JUDGE FREDMAN: So you don't have all the upstream and
6 downstream regulatory sequences?

7 MR. GOLIGHTLY: I do not believe we have the untranslated
8 version.

9 JUDGE FREDMAN: So someone could recreate most of the viruses,
10 I mean, nowadays but not --

11 MR. GOLIGHTLY: Yes, and I think looking back in the literature,
12 they might -- I don't want to venture in to where I don't know, but --

13 JUDGE FREDMAN: I'm pretty sure the sequence of VSV -- some
14 strains is disclosed, that's what you're getting at?

15 MR. GOLIGHTLY: Yes, and I think some of them even -- they
16 know what the parental strain is, so those sequences should be available.

17 JUDGE FREDMAN: And then four of the strains you have papers
18 for. The fifth strain, I guess, is really strain 4, I think, M-4 strain, seems like
19 there were no papers on. Is that strain -- I mean, you argue they're readily
20 available, but who is it readily available from?

21 MR. GOLIGHTLY: I'm not sure.

22 JUDGE FREDMAN: I mean, that issue is a little bit concerning to
23 me. Obviously, to some extent, this is the validity of the patent of those
24 claims. I mean, not the whole patent, but it would be -- those claims would
25 be subject to invalidity if it wasn't available. So there's an advantage here in
26 depositing that may not, you know -- it may not, you know, actually

1 disadvantage you. I mean, here the immunoreaction would be in your favor,
2 so -- asking you to do this.

3 MR. GOLIGHTLY: Okay. I think the one thing to respond is that
4 what is the level that they have to be available? They're clearly out there,
5 clearly lots of people and they are using an exchange --

6 JUDGE FREDMAN: Right. For M-1, 3, and 5 it's clear that they're
7 published in a number of papers, so those ones seem more available. They
8 don't meet the standard, we can argue, but they're more available. And 4, it
9 seems like there might be more of an issue.

10 MR. GOLIGHTLY: Yeah, and I think I argued them for --

11 JUDGE PRATS: You argued M-4 separately and you said that the
12 sequence -- that you would basically provide a sequence for all the viral
13 proteins. So not to put words in your mouth, but are you essentially saying
14 since the overall sequence of VSV is known, since we've given you the
15 importance sequences with respect to strain 4, then you would basically be
16 able to make it? That seems to be what the Examiner is sort of responding
17 to, that statement. Is that accurate?

18 MR. GOLIGHTLY: What's the question?

19 JUDGE PRATS: That you'd be able to make it based on -- you're
20 arguing that you'd be able to make it based on what's disclosed in the
21 Specification.

22 JUDGE FREDMAN: Why would you be able to do that?

23 MR. GOLIGHTLY: I'd have to look more into that to see what --
24 exactly where that strain come from, what the background is, and whether
25 other information's available.

26 JUDGE PRATS: Thank you.

1 JUDGE GRIMES: Thank you very much.

2 MR. GOLIGHTLY: Thank you.

3 (Whereupon, the proceedings, at 9:55 a.m., were concluded.)

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